



SEQUENCE LISTING

<110> Gladyshev et al.

<120> MAMMALIAN SELENOPROTEIN DIFFERENTIALLY EXPRESSED IN TUMOR CELLS

<130> 4239-56113

<140> US 09/676,718

<141> 2000-09-28

<150> PCT/US99/07560

<151> 1999-04-06

<150> US 60/080,850

<151> 1998-04-06

<160> 19

<170> PatentIn version 3.1

<210> 1

<211> 162

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (93)..(93)

<223> Xaa is selenocysteine

<400> 1

Met Ala Ala Gly Pro Ser Gly Cys Leu Val Pro Ala Phe Gly Lys Arg
1 5 10 15

Leu Leu Leu Ala Thr Val Leu Gln Ala Val Ser Ala Phe Gly Ala Glu
20 25 30

Phe Ser Ser Glu Ala Cys Arg Glu Leu Gly Phe Ser Ser Asn Leu Leu
35 40 45

Cys Ser Ser Cys Asp Leu Leu Gly Gln Phe Asn Leu Leu Gln Leu Asp
50 55 60

Pro Asp Cys Arg Gly Cys Cys Gln Glu Glu Ala Gln Phe Glu Thr Lys
65 70 75 80

Lys Leu Tyr Ala Gly Ala Ile Leu Glu Val Cys Gly Xaa Lys Leu Gly
85 90 95

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Arg Phe Pro Gln Val Gln Ala Phe Val Arg Ser Asp Lys Pro Lys Leu
 100 105 110

Phe Arg Gly Leu Gln Ile Lys Tyr Val Arg Gly Ser Asp Pro Val Leu
 115 120 125

Lys Leu Leu Asp Asp Asn Gly Asn Ile Ala Glu Glu Leu Ser Ile Leu
 130 135 140

Lys Trp Asn Thr Asp Ser Val Glu Glu Phe Leu Ser Glu Lys Leu Glu
 145 150 155 160

Arg Ile

<210> 2
 <211> 1244
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (5)..(493)
 <223>

<220>
 <221> misc_feature
 <222> (281)..(283)
 <223> TGA codon codes for selenocysteine

<400> 2
 agcg atg gcg gct ggg ccg agt ggg tgt ctg gtg ccg gcg ttt ggg cta 49
 Met Ala Ala Gly Pro Ser Gly Cys Leu Val Pro Ala Phe Gly Leu
 1 5 10 15

cgg ttg ttg ttg gcg act gtg ctt caa gcg gtg tct gct ttt ggg gca 97
 Arg Leu Leu Leu Ala Thr Val Leu Gln Ala Val Ser Ala Phe Gly Ala
 20 25 30

gag ttt tca tcg gag gca tgc aga gag tta ggc ttt tct agc aac ttg 145
 Glu Phe Ser Ser Glu Ala Cys Arg Glu Leu Gly Phe Ser Ser Asn Leu
 35 40 45

ctt tgc agc tct tgt gat ctt ctc gga cag ttc aac ctg ctt cag ctg 193
 Leu Cys Ser Ser Cys Asp Leu Leu Gly Gln Phe Asn Leu Leu Gln Leu
 50 55 60

gat cct gat tgc aga gga tgc tgt cag gag gaa gca caa ttt gaa acc 241
 Asp Pro Asp Cys Arg Gly Cys Cys Gln Glu Glu Ala Gln Phe Glu Thr

65	70	75	
aaa aag ctg tat gca gga gct att ctt gaa gtt tgt gga tga aaa ttg			289
Lys Lys Leu Tyr Ala Gly Ala Ile Leu Glu Val Cys Gly Lys Leu			
80	85	90	
gga agg ttc cct caa gtc caa gct ttt gtt agg agt gat aaa ccc aaa			337
Gly Arg Phe Pro Gln Val Gln Ala Phe Val Arg Ser Asp Lys Pro Lys			
95	100	105	110
ctg ttc aga gga ctg caa atc aag tat gtc cgt ggt tca gac cct gta			385
Leu Phe Arg Gly Leu Gln Ile Lys Tyr Val Arg Gly Ser Asp Pro Val			
	115	120	125
tta aag ctt ttg gac gac aat ggg aac att gct gaa gaa ctg agc att			433
Leu Lys Leu Leu Asp Asp Asn Gly Asn Ile Ala Glu Glu Leu Ser Ile			
	130	135	140
ctc aaa tgg aac aca gac agt gta gaa gaa ttc ctg agt gaa aag ttg			481
Leu Lys Trp Asn Thr Asp Ser Val Glu Glu Phe Leu Ser Glu Lys Leu			
	145	150	155
gaa cgc ata taa atcttgctta aattttgtcc tacccttttg ttaccttatc			533
Glu Arg Ile			
160			
aaatgaaata ttacagcacc tagaaaataa tttagttttg cttgcttcca ttgatcagtc			593
ttttacttga ggcatataat atctaattaa atcgtgaaat ggagctatag tccatgatat			653
ctaaggagtt ggcaagctta acaaaaccca ttttttataa atgtccatcc tctgcattt			713
gttgatacca ctaacaaaat gctttgtaac agacttgagg ttaattatgc aaatgatagt			773
ttgtgataat tgggtccagtt ttacgaacaa cagattttcta aattagagag gttaacaaga			833
cagatgatta ctatgcctca tgtgctgtgt gctctttgaa aggaatgaca gcagactaca			893
aagcaaataa gatatactga gcctcaacag attgcctgct cctcagagtc tctcctatct			953
ttgtattacc cagctttctt ttttaatacaa atgttattta tagttttacaa tgaatgcact			1013
gcataaaaac tttgtagctt cattattgta aaacatatc aagatcctac agtaagagtg			1073
aaacattcac aaagatttgc gttaatgaag actacacaga aaacctttct agggatttgt			1133
gtggatcaga tacatacttg gcaaattttt gagttttaca ttcttacaga aaagtccatt			1193
taaaagtgat catttgtaag accaaaatat aaataaaaag tttcaaaaat c			1244

<210> 3
 <211> 489
 <212> DNA
 <213> Homo sapiens
 <220>

<221> CDS
 <222> (1)..(489)
 <223>

<220>
 <221> misc_feature
 <222> (277)..(279)
 <223> TGA codon codes for selenocysteine

<400> 3
 atg gcg gct ggg ccg agt ggg tgt ctg gtg ccg gcg ttt ggg cta cgg 48
 Met Ala Ala Gly Pro Ser Gly Cys Leu Val Pro Ala Phe Gly Leu Arg
 1 5 10 15
 ttg ttg ttg gcg act gtg ctt caa gcg gtg tct gct ttt ggg gca gag 96
 Leu Leu Leu Ala Thr Val Leu Gln Ala Val Ser Ala Phe Gly Ala Glu
 20 25 30
 ttt tca tcg gag gca tgc aga gag tta ggc ttt tct agc aac ttg ctt 144
 Phe Ser Ser Glu Ala Cys Arg Glu Leu Gly Phe Ser Ser Asn Leu Leu
 35 40 45
 tgc agc tct tgt gat ctt ctc gga cag ttc aac ctg ctt cag ctg gat 192
 Cys Ser Ser Cys Asp Leu Leu Gly Gln Phe Asn Leu Leu Gln Leu Asp
 50 55 60
 cct gat tgc aga gga tgc tgt cag gag gaa gca caa ttt gaa acc aaa 240
 Pro Asp Cys Arg Gly Cys Cys Gln Glu Glu Ala Gln Phe Glu Thr Lys
 65 70 75 80
 aag ctg tat gca gga gct att ctt gaa gtt tgt gga tga aaa ttg gga 288
 Lys Leu Tyr Ala Gly Ala Ile Leu Glu Val Cys Gly Lys Leu Gly
 85 90 95
 agg ttc cct caa gtc caa gct ttt gtt agg agt gat aaa ccc aaa ctg 336
 Arg Phe Pro Gln Val Gln Ala Phe Val Arg Ser Asp Lys Pro Lys Leu
 100 105 110
 ttc aga gga ctg caa atc aag tat gtc cgt ggt tca gac cct gta tta 384
 Phe Arg Gly Leu Gln Ile Lys Tyr Val Arg Gly Ser Asp Pro Val Leu
 115 120 125
 aag ctt ttg gac gac aat ggg aac att gct gaa gaa ctg agc att ctc 432
 Lys Leu Leu Asp Asp Asn Gly Asn Ile Ala Glu Glu Leu Ser Ile Leu
 130 135 140
 aaa tgg aac aca gac agt gta gaa gaa ttc ctg agt gaa aag ttg gaa 480
 Lys Trp Asn Thr Asp Ser Val Glu Glu Phe Leu Ser Glu Lys Leu Glu
 145 150 155
 cgc ata taa 489
 Arg Ile
 160

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 Carl

<210> 4
 <211> 136
 <212> PRT
 <213> Homo sapiens

<220>
 <221> SITE
 <222> (67)..(67)
 <223> Xaa is selenocysteine

<400> 4

Ser Ala Phe Gly Ala Glu Phe Ser Ser Glu Ala Cys Arg Glu Leu Gly
 1 5 10 15

Phe Ser Ser Asn Leu Leu Cys Ser Ser Cys Asp Leu Leu Gly Gln Phe
 20 25 30

Asn Leu Leu Gln Leu Asp Pro Asp Cys Arg Gly Cys Cys Gln Glu Glu
 35 40 45

Ala Gln Phe Glu Thr Lys Lys Leu Tyr Ala Gly Ala Ile Leu Glu Val
 50 55 60

Cys Gly Xaa Lys Leu Gly Arg Phe Pro Gln Val Gln Ala Phe Val Arg
 65 70 75 80

Ser Asp Lys Pro Lys Leu Phe Arg Gly Leu Gln Ile Lys Tyr Val Arg
 85 90 95

Gly Ser Asp Pro Val Leu Lys Leu Leu Asp Asp Asn Gly Asn Ile Ala
 100 105 110

Glu Glu Leu Ser Ile Leu Lys Trp Asn Thr Asp Ser Val Glu Glu Phe
 115 120 125

Leu Ser Glu Lys Leu Glu Arg Ile
 130 135

<210> 5
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 5
atggcggtg ggccgagtgg g 21

<210> 6
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 6
taatatgcgt tccaactttt c 21

<210> 7
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 7
tctgcttttg gggcagagtt t 21

<210> 8
<211> 1216
<212> DNA
<213> Mus musculus

<220>
<221> CDS
<222> (11)..(490)
<223>

<220>
<221> misc_feature
<222> (287)..(289)
<223> TGA codon codes for selenocysteine

<400> 8
gaccgcaggg atg gcg gca ggg cag ggt ggg tgg ctg cgg cca gct ctg 49
Met Ala Ala Gly Gln Gly Gly Trp Leu Arg Pro Ala Leu
1 5 10

ggg ctg cgc ttg ctg ctg gcg act gcg ttt caa gcg gtg tct gct ctg 97
Gly Leu Arg Leu Leu Leu Ala Thr Ala Phe Gln Ala Val Ser Ala Leu
15 20 25

ggg gca gag ttt gcg tca gag gca tgc aga gag ttg ggt ttc tcc agc 145
Gly Ala Glu Phe Ala Ser Glu Ala Cys Arg Glu Leu Gly Phe Ser Ser
30 35 40 45

aac ttg ctc tgc agc tct tgc gat ctt ctt gga cag ttt aat ctg ctc	193
Asn Leu Leu Cys Ser Ser Cys Asp Leu Leu Gly Gln Phe Asn Leu Leu	
50 55 60	
cca ctg gac cct gtt tgc aga ggg tgc tgt cag gaa gaa gca caa ttt	241
Pro Leu Asp Pro Val Cys Arg Gly Cys Cys Gln Glu Glu Ala Gln Phe	
65 70 75	
gaa acc aaa aag ctg tat gca gga gcc atc ctt gaa gtc tgc gga tga	289
Glu Thr Lys Lys Leu Tyr Ala Gly Ala Ile Leu Glu Val Cys Gly	
80 85 90	
aaa ttg ggg agg ttc cct caa gtc caa gct ttt gtc aga agt gat aaa	337
Lys Leu Gly Arg Phe Pro Gln Val Gln Ala Phe Val Arg Ser Asp Lys	
95 100 105	
ccc aaa ctc ttc aga ggt cta cag atc aag tat gtt cga ggc tca gac	385
Pro Lys Leu Phe Arg Gly Leu Gln Ile Lys Tyr Val Arg Gly Ser Asp	
110 115 120	
cct gta cta aag ctt ttg gac gac aac ggg aac att gct gaa gaa cta	433
Pro Val Leu Lys Leu Leu Asp Asp Asn Gly Asn Ile Ala Glu Glu Leu	
125 130 135 140	
agc atc ctc aaa tgg aac aca gac agt gtg gaa gag ttc ctg agc gag	481
Ser Ile Leu Lys Trp Asn Thr Asp Ser Val Glu Glu Phe Leu Ser Glu	
145 150 155	
aag ttg gaa cgcataataa catgcttagt agtttttata ctaatcaaat	530
Lys Leu Glu	
gaattatcac agcacctaga caataactta gttttgcatg cttacattgg tcatcctttt	590
tatgtacatc attaattcttc tgacaagaag ctgaagtagc accacagtcc ataatatatc	650
aggatctggc aagcttaagg aaccagctc ttagaaattt ctcttcttct acatttggtg	710
ctctcaccag tgaaacgctt tgtaaggagg catctgggta attatgcaaa taagtttggtg	770
ataattgctc cagttctaca aacaacagaa ttttaaataag aggaagtgga taaaggagac	830
acctcccttg ctgtgtgctc tttgaaagta attgacagaa aactacaaac acgtaggatg	890
ccctgcgcct cagcagcacc caccacagag cctcttgggc tgcccagctt tcttttcagt	950
acaagtattt gtagtttgta atgaatgtgc cacatacagg ttttgtagct tattattatg	1010
gaacagactg aagatctgca gtacgaatgt aatacttata aaggtttgca ttaatgagga	1070
ttacacagaa aacctttggt aaggacttgt gtagatctga taattggcaa atttttatatt	1130
taaaagtatt cttacagaag agttccattt aagaatgttc acttatagga ccaaaatata	1190
aataaaaaact ttcaaataatg aaaaaa	1216

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aw

<210> 9
 <211> 162
 <212> PRT
 <213> Mus musculus

<220>
 <221> SITE
 <222> (93)..(93)
 <223> Xaa is selenocysteine

<400> 9

Met Ala Ala Gly Gln Gly Gly Trp Leu Arg Pro Ala Leu Gly Leu Arg
 1 5 10 15

Leu Leu Leu Ala Thr Ala Phe Gln Ala Val Ser Ala Leu Gly Ala Glu
 20 25 30

Phe Ala Ser Glu Ala Cys Arg Glu Leu Gly Phe Ser Ser Asn Leu Leu
 35 40 45

Cys Ser Ser Cys Asp Leu Leu Gly Gln Phe Asn Leu Leu Pro Leu Asp
 50 55 60

Pro Val Cys Arg Gly Cys Cys Gln Glu Glu Ala Gln Phe Glu Thr Lys
 65 70 75 80

Lys Leu Tyr Ala Gly Ala Ile Leu Glu Val Cys Gly Xaa Lys Leu Gly
 85 90 95

Arg Phe Pro Gln Val Gln Ala Phe Val Arg Ser Asp Lys Pro Lys Leu
 100 105 110

Phe Arg Gly Leu Gln Ile Lys Tyr Val Arg Gly Ser Asp Pro Val Leu
 115 120 125

Lys Leu Leu Asp Asp Asn Gly Asn Ile Ala Glu Glu Leu Ser Ile Leu
 130 135 140

Lys Trp Asn Thr Asp Ser Val Glu Glu Phe Leu Ser Glu Lys Leu Glu
 145 150 155 160

Arg Ile

<210> 10
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 10
atggcggcag ggcagggtag

20

<210> 11
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 11
tatgcgttcc aacttctcgc t

21

<210> 12
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 12
cagacttgcg gttaattatg

20

<210> 13
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 13
gccaaagtatg tatctgatcc

20

<210> 14
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 14
ggcatagtaa tcattctgtct tgtt 24

<210> 15
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 15
gtatgtatct gatccacaca aatcc 25

<210> 16
<211> 152
<212> PRT
<213> Caenorhabditis elegans

<220>
<221> SITE
<222> (129)..(129)
<223> Xaa is any amino acid

<400> 16

Gly Trp Val Ile Phe Leu Leu Leu Ala Ala Val Val Ser Pro Met Phe
1 5 10 15

Gly Glu Val Glu Glu Tyr Lys Ile Asp Val Glu Glu Cys Lys Ala Ala
20 25 30

Gly Phe Asn Pro Glu Thr Leu Lys Cys Gly Leu Cys Glu Arg Leu Ser
35 40 45

Asp Tyr His Leu Glu Thr Leu Leu Thr Asp Cys Leu Gln Cys Cys Ile
50 55 60

Lys Glu Glu Glu Phe Lys His Glu Lys Tyr Pro Thr Ala Ile Leu Glu
65 70 75 80

Val Cys Glu Cys Asn Leu Ala Arg Phe Pro Gln Val Gln Ala Phe Val
85 90 95

His Lys Asp Met Ala Arg Gln Phe Gly Gly Lys Val Lys Val Lys His
100 105 110

Val Arg Gly Val Arg Pro Gln Val Ala Leu Lys Asp Ala Asp Phe Lys
 115 120 125

Xaa Lys Glu Val Leu Ser Val Glu Lys Trp Asp Thr Asp Thr Leu Ile
 130 135 140

Asp Phe Phe Asn Gln Trp Leu Glu
 145 150

<210> 17
 <211> 89
 <212> PRT
 <213> Brugla malayi

<400> 17

Lys Asp Tyr Ala Glu Met Glu Gln Glu Lys Tyr Pro Arg Ala His Ile
 1 5 10 15

Glu Ile Cys Glu Cys Asn Leu Gly Arg Phe Pro Gln Ala Glu Ala Phe
 20 25 30

Val Lys Ser Asn Met Val Lys Lys Trp Gly Thr Cys Val Lys Val His
 35 40 45

His Val Arg Gly Thr Leu Pro Thr Ile Lys Leu Leu Asp Ala Gln Gly
 50 55 60

Glu Val Gln Lys Thr Met Asn Ile Glu Lys Trp Asp Thr Asp Thr Ile
 65 70 75 80

Thr Glu Phe Leu Asn Thr Trp Leu Glu
 85

<210> 18
 <211> 39
 <212> PRT
 <213> Oryza sativa

<400> 18

Gly Arg Arg Leu Val Leu Thr Ser Cys Ser Val Leu Cys Leu Gly Ala
 1 5 10 15

Glu Gly Phe Gly Ala Arg Glu Cys Glu Glu Leu Gly Phe Thr Gly Leu
 20 25 30

Ala Leu Cys Ser Asp Cys Asn
35

<210> 19
<211> 75
<212> DNA
<213> Homo sapiens

B3
N
<400> 19
gggggggtttt catctatgag ggtgtttcct ctaaacctac gagggaggaa cacctgatct 60
tacagaaaat accac 75

